English translation of Prior art

PATENT ABSTRACTS OF JAPAN

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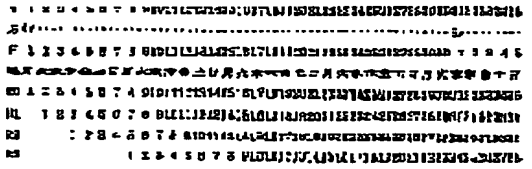
(54) DEVICE AND METHOD FOR LEARNING SUPPORT

(57)Abstract:
PROBLEM TO BE SOLVED: To attain rational improvement of a learning method in which the learning period is made longer for the items having a higher degree of memory learning and the learning period is made shorter for the items having a lower degree of memory learning, in place of the conventional learning method that randomly repeats the objects to be memorized in the case of learning the objects to be memorized.
SOLUTION: A learning object group x(n) from a learning object group x(1) is assigned to a learning schedule and learnings are conducted to memorize them. In the case of the learning support device and the learning support method, classifying group numbers, learning execution dates and the next review dates are set, the degree of learnings are classified into A, B and C and corresponding rational learning periods are set to achieve a permanent memory.



LEGAL STATUS

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CLAIMS

[Claim(s)]
[Claim 1] The input unit for inputting the judgment result of study extent to the candidate for study into the list for study. Or a display the whole study group by the screen or printing for [for study / which store a study result / storage and for study] --- each -- Or according to the equipment and the study annual which carry out a voice output, it sets to the exchange equipment of study and review equipped with the equipment having the function which carries out inverse substitution of the lapsed days between study days and months to the days and months which carry out four operations and correspond. The study extent judging of the group for study of a more than for [which sets a study day and is learned on that day / study] 1 study input for every candidate for study and the period to review of what has high study extent is set up for a long time. Study exchange equipment characterized by the thing which is study extent, and the period to review is short set up although it is low, and it has [a thing] a screen display and printing, or equipment that can carry out a voice output for the group for study of the study day on subsequent schedule study days.
[Claim 2] The study exchange approach of making proper selection as being alike to a study extent judging in the review scheduled day setting multiplier beforehand classified and prepared in two or more sorts in setting up a study day according to claim 1, and setting the review day, and having been made to carry out operation calculation in the study scheduled day next time based on the lapsed days from the last study Japan or the last review Japan for the same storage.
[Claim 3] .. is given. the candidate for storage stored in storage — the group for storage of first time study Japanese train R [0] -- every schedule -- the group number 1 and 2..x — Learn on a regular-intervals schedule as ..., and it contains, one by one — R[0] 1 and R[0] 2 ... R[0] x -- It is R [2] about an R[1] 2nd review Japanese train in a review Japanese train each of the next time.. It attaches for defining the schedule of R[k] x, using a k-th review Japanese train as R [k]. Multiply by it and calculate a review scheduled day setting multiplier in the days of storage preservation [train / study Japanese] last time, and the schedule of the following train is decided based on claim 2. each candidate for storage inside R[k] x group — study extent -- up and down — therefore — ## of review frequency modification — the study exchange approach by the group control which a number was not assigned according to the individual at a certain time, but gave the group number of x**alpha, and was simplified to applicable group number affiliation train R [k**beta] as carried out automatic admission.

[Translation done.]

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Industrial Application] If this invention is attached for reviewing the candidate for storage which gave the group number, for example, a schedule is the array of the series r= 2 of the common ratio r of geometrical series storage that day, the next day, and following ****** ... that is, although it is markedly alike and can rationalize, if .. and review frequency can be kept away for eight days and it can carry out intentionally to the retentive memory coon on the 4th on the 2nd It is what was tried so that this could be carried out without derangement in large quantities, and activity range, such as advertisement activities which should also be called compulsive storage only as amelioration of the educational field, and management activities of other firms management, is wide.
[0002]
[Description of the Prior Art] the storage activity field — setting — the conventional store method ——less — that from which it becomes [only being recognized and] the basis that to only repeat is required at a central theme has finished with analysis curvilinear extent of the loss situation of storage by the EBINGU house memory curve. The fault which is the easiest to fall in the process to perform makes complicated the card production activity which simple-substance-izes the candidate for storage, the card arrangement activity under study, etc. very much for dead works other than original memory learning by the handwriting approaches, such as recombination at the time of recombination for [according to study extent with a natural thing] storage being frequently needed, or being unable to do by the activation as a schedule ruining many environments. And it is the cause which suffers a setback as a result.
[0004]
[Problem(s) to be Solved by the Invention] By making the software which can learn this fault while grasping a storage condition to *******, it is that which it finished setting up so that the storage purpose might be completed, and when this invention also includes the voice output in linguistic study etc., it is next to impossible by the conventional handwriting approach. The candidate for study is arranged according to a storage condition, and so for this invention, free nature is given to this modification, although derangement will often be caused if it is not that study and review can be performed and that modification of a plan can carry out simply at any time. For example, it saw from the lapsed days to review this time from the last study day, and if storage was attached to what is held at brains, next study was made more rational [choosing the progress schedule of the one or more multiples, i.e., setting up only from the first time also on the basis of the days from the last time of each time,]. Moreover, it is the calculation approach which multiplied by 1 or less than one figure the same days or for contracting, enabled it to correct the days by next time when inadequate in another side storage, and includes this review day setting multiplier defined beforehand. The review day of each study item is set to day by day [study], and it is what software-ized this, it introduces into a personal computer, study is what made possible coincidence not only of character expression but a voice output, and there is no attempt conventionally. The review day for storage if attached to calculating — the number (x) last time the contents table for storage, and for flesh-side (X+ and —) storage — study activation day (Z) study and relevance — the day (S') study activation (day S) storage maintenance (days H) study extent judging (V-ABC-) Review day setting multiplier (K-abc...k-and K) After needing, and the review scheduled day's being automatically calculated by the display after [study] next time (HxK) and converting into applicable days and months, it contains as a review relevance day (Y) next time. Next, when continuing study by the case where the candidate for storage is plurality, initial storage is performed on a regular-intervals schedule (P), and order of a schedule will become easy if review is also arranged to coincidence on the same day. In this case, if the above-mentioned H considers as the integral multiple of P, a study day will be decided and it will be easy to manage it. Namely, by making an individual jersey number into a group number, while carrying out group management, if are attached to what has low study extent, and it removes from a group and is made to be included in other proper groups, it should be able to simplify more. Moreover, the derangement which often takes place is the case where it is not able to learn on the planned schedule. When it passes over a schedule temporarily, the thing of the review scheduled day till then is outputted and learned, and while enabling it to rearrange on a new schedule, it must be made to make a change easy also about the thing of the initial storage planned by then. it carries out to any — the admission recombination for the storage according to individual in a group also makes it easy using the calculation formula containing the review day setting multiplier which carried out grouping of the object first, gave the package group number, subsequently to a study day, carried out array order of the initial study / review study as ... the 2nd train the 1st train the 0th train, respectively, and fixed beforehand as a multiplier of a review scheduled-day setup on schedule [each / the / successive-installation]. Although free or more 1 less than one value is sufficient, if the review day setting multiplier of the calculation formula is made and it shall be processed on an integer schedule so that initial study and a review day may not become a gore gore. it will be simplified more.
[0005]
[Means for Solving the Problem] Although display the candidate for storage on a screen first, this is classified, it assigns a schedule and a receipt address is given, in that case, discernment does not give a jersey number separately, but gives and simplifies a group number. When activation days and months are displayed and a next review day is set at the same time it carries out memory learning of the object of the day, a natural review train will be given. It starts for review first and decides on the review scheduled day next time on a memory learning activation day according to extent of storage. The ABC classification of storage extent is carried out, and the schedule review day calculated by review day setting multiplier abc..k set up as a suitable selector is overwritten and saved in the convention location for storage at it. Although the schedule review Japanese

train will assume the days in which storage maintenance is possible from the days from the last memory learning day to a review study day on the day. abc..k is convenient if it sets beforehand as a multiplier for the review scheduled day calculation. Therefore, in the first stage, study spacing is to a base. If it is a week schedule, the basic number character 1 is given to one week. Although there are also complicated elements, such as a person's in question anamnesis and effect of the other target difficulty and superposition storage, a review day, i.e., eye the 2nd train, is made to usually match the next study day for initial storage as a= 1 with storage extent A the first stage. Although it is an ideal that the address in each will branch according to study extent after it on the principle of an object group giving and containing a need element at the upper address which **(ed) one time and gave the group number, it is more convenient to include for any of an arrangement top group being, that is, although b= 1.5 is sufficient if it is as a day of only review when the number of a=1b=2 or study spacing is even, make it any — a multiplier shall be fixed beforehand as in that case K -- each time — a student -- setting up — free — a multiplier -- ****** — you may leave . Although there must naturally be the need for the affiliation group recombination for storage each time, if study extent avoids in general, it belongs to the original group, and others can be simplified by being included in subsequent groups' number instead of making a new group. That is, by the 1st review, when storage extent is bad, you may be included in the candidate for storage of the next day, but when generated on the schedule of the arbitration after it, with the treatment, the same frequency as the first stage will be repeated henceforth, it is irrational, and it is included in x+alpha (or −alpha) etc. Instead of giving a multiplier suitable for it, make it any — each train will multiply the days from the study day of a train by the scheduled day setting multiplier last time, and will plan a review day next time.

[0006]

[Function] Namely, the object by which it was arranged also at the time of when by saving after preparing the study activation Japanese column of storage or review storage in each for storage as a display column the study scheduled day column and this time the affiliation group number for the storage with a jersey number and next time, respectively can be called rationally, and storage activation can be carried out. he should remember — he should have **********(ed) and forgotten — possible in the present condition which has caused the derangement which becomes the cause by which a repeat called ********** abolishes confidence, and abandons study — it can restrict and avoid.

[0007]

[Example] the group number 1 which consists of each study item the candidate for study which was stored in storage in the case of for [two or more] storage — the group of n — classifying -- a study day — from the 1st time by the n−th time — assigning — day by day [study] — a sequential display — or, although review of the 1st day will usually be carried out in carrying out a voice output and learning at the 2nd day Supposing it carries out by the geometrical series of r= 2 after that, it will become like drawing 1 . this — arranging — the drawing 2 . then 1st train R [0] — eye the 2nd train for [new] storage R [1] — the 3rd train R of the candidate for the 1st review [2] — the 2nd candidate for review -- sequential order is carried out with ... having — group number n up to — it can review by the same frequency and is very rational, however, a card classification and its arrangement box proper for performing this, if a voice output is also performed temporarily While the equipment which can carry out [short story]−izing is indispensable and considerable derangement follows on those handling, the need for recombination including the judgment of study extent arises. For example, there is often the need of including the thing which has study extent low in for [in the group of the group number 1] storage, i.e., the thing which is not memorized, in the group of the group number 2. moreover, disp [since there is also a Japanese national holiday even if it is based on study every day in that case, although it will become simpler, if it will carry out on the same spacing schedule also with a study plan day, and other environments rule over, it cannot perform in many cases, and / further / various elements / effect / of the difficulty for storage, and a storage superposition situation / slag and 1 **] In many cases . Therefore, as what has free nature with processing of an above-mentioned statement of principles, this invention needs to consider an art. Supposing the candidate for storage of the group of 12345 is now learned for for [every] 1 round, it will become like drawing 3 . That is, although arranged [eye / 1st ****** 2 train] with review of the 1st initial storage, and the 2nd review one by one like the above, the review period in the meantime should also often have the need that may choose study frequency freely and moreover the part in the group dissociates according to the terms and conditions for storage. That is, although selection of the review scheduled day multiplier for deducing a study schedule to the storage maintenance days from last time next time must be first defined in setting up each train as an element, in short, it serves as a multiplier of a days setup for [between each train] storage. That is, in the case of this example, the student made the regular−intervals schedule unit seven days, the study schedule multiplier 1 with the same 2nd review train is chosen from initial storage, but the 3rd review R [3] has adopted 2. Although in other words it is important whether that from which it separates from a group in the meantime is included in the thing of the multiplier of what time throat each time, or into which group of ****** it puts, since it is simplified, only 1 adds a jersey number and being included in a next group etc. is sufficient. Therefore, if the procedure which makes automatic selection with a personal computer is shown, the candidate for storage by which the group division classification was carried out beforehand on the OPEN:first day will be inputted, Memory learning is carried out. The study scheduled day spacing unit P as a group of this is defined. If it is every day, P is set to 1, and P is set to 7 if it is a week schedule. listen, if it is the former — although each specifies the multiplier of a= 1 after one week if it is the review day latter about ****** — the latter -- the way — supposing it only reviews for example, what day of the week or three days after, it can register as 3/7=0.43=b, and can also place. anyway, review scheduled day setting multiplier a−b attached to calculating from the maintenance days H — although .. is chosen and a review train is prepared in the next step, in this example, the same is said of eye the 3rd train as a frequency factor a= 1, and eye the 4th train is set to b= 2.

Namely, X(affiliation group number) P(study schedule spacing) S'(study relevance days and months) X⊥ and −(table for storage, and flesh side) Z(last study activation day) S(study activation day) R (affiliation train)

VABC(study extent judging) H(maintenance days) Kabc−−k and K(review scheduled day setting multiplier) Y (review setting relevance day) etc. — if it sets — one indispensable to a display as a result — XxS'SZY ****** is displayed by R[]. When it separates from the group for [each] storage, each jersey number may set to 1−1, this may be saved, but in order to form single **, X is usually included in the group of x+1 grade others. If Y0: is illustrated as review study and the output sign of the thing of initial storage and Y1: are illustrated in addition as a receipt sign (1) Initial procedure of study I study preparation OPEN: P : Schedule spacing The group division of the candidate for storage is carried out. X+: X− : x swing rates May set 1 **** or at every 1 −>x−>n An account Input ****** (voice and screen). S': Study scheduled day S : [Study activation every day] K: Review day schedule multiplier a= b= c= .. Selection RO study procedure ** Y0(new study sign);** S' of K of each train in the case of this object: Date Input X+;X−; Table flesh−side input for storage x: Group number

** Carry out an after [study] V:ABC judging and it is abc, respectively. It is abbreviation A (S: change receipt and others to x, a memorizing judging. x+1. and it is the review procedure (the 2nd day of the study or subsequent ones procedure) of RO:automatic

input ** END(II) after that) about an input.
b) Review procedure (2nd henceforth)
** Y1(review sign):** X+:X-: even if it responds to study extent ABC with each output of x of the review scheduled day of the day with the group number of x — Ab: -- x of a basis -- selection (x+or-alpha) of receipt As:x-1 Babc..k
(Namely, setting to the Ruhr, for example, Be, appointed beforehand x+1 receipt)
C: abc—k In addition to this Selection **END of K (It is automatic receipt to an applicable part)
b) When it is not able to learn on a planned study day, the review group object by the day of which the ** Y1(review sign):** xplan was done is displayed.
** B which carries out an ABC classification: C : (it is the same as a front)
** Y0 : The [0008] as the above [same]
[Effect of the Invention] About that by which cancels the trouble of card-izing by note, preservation trouble, and recombination trouble taking advantage of the preservation capacity of a personal computer, and preservation days count capacity and the conversion capacity to the days and months of that fully so that an array until it carries out the full storage of all the candidates for storage may fully be made, and voice is accompanied like linguistic conversation practice, it was next to impossible by the conventional approach. With personal capability, it is also possible to also change the frequency kept away for storage again the degree of capital, to also constant-ize, and to set the degree of capital, and the last retentive-memory date can also be changed at any time. Therefore, it is utilizable also for plan-ization of the advertisement activities to many and unspecified persons which should be called all storage indispensable types of industry and compulsive storage by making the educational world into a subject.
[0009]

[Translation done.]

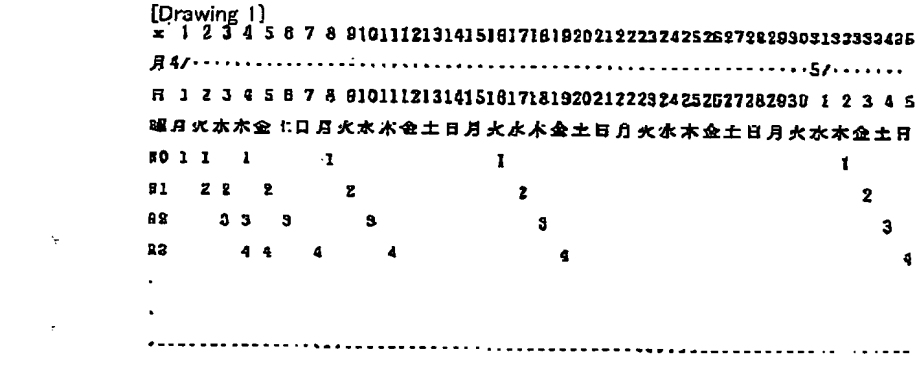
DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] The initial order table showing a principle
[Drawing 2] The conversion table for carrying out order activation
[Drawing 3] The order table of the example at the time of learning by 1 time of frequency for a week
[Drawing 4] Drawing showing the display screen
[0010]
[Description of Notations]
x Group number (Jersey number) P Study schedule spacing S' Study relevance days and months
X+ and - Table flash side for storage x Group number Z last time study activation day S study activation day R Affiliation train
V-ABC- Study extent judging H Maintenance days K (ABC--k) review scheduled day setup Multiplier Y Review setting relevance day
YO : New study output sign
Y1 : Review output sign
P: Schedule spacing input sign
X: Candidate for storage x Group number
S: Initial-study--relevance-day-input into a group number.
Z: Study activation date input
K: a= b= c= Input
V: Each ABC judging is attained to abc..k and it is K input.
Y: A review setting day automatic input and an R[] input

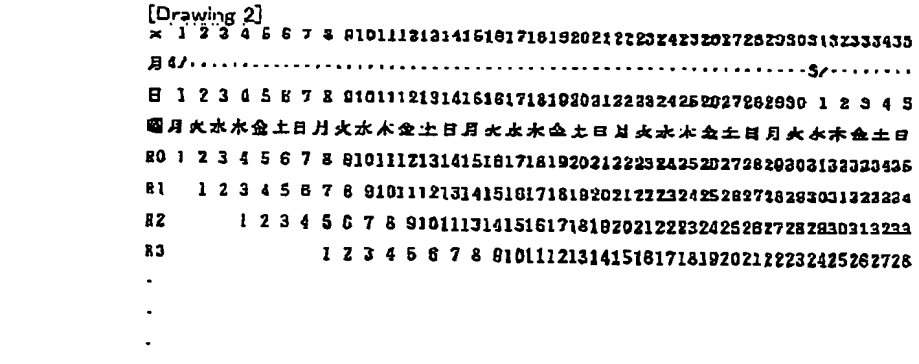
[Translation done.]

DRAWINGS

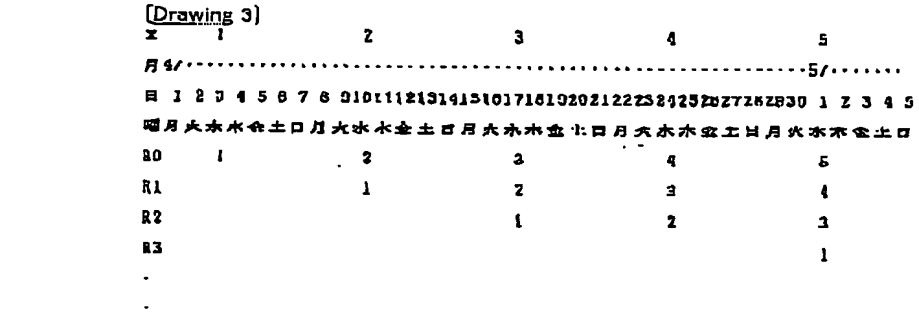
[Drawing 1]



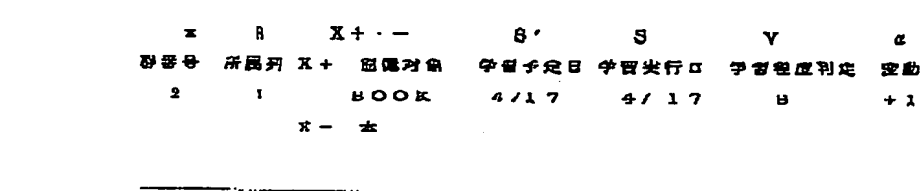
[Drawing 2]



[Drawing 3]



[Drawing 4]



[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

CORRECTION OR AMENDMENT

[Kind of official gazette] Printing of amendment by the convention of 2 of Article 17 of Patent Law
[Section partition] The 2nd partition of the 6th section
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[Procedure revision]
[Filing Date] June 24, Heisei 17 (2005. 6.24)
[Procedure amendment 1]
[Document to be Amended] Specification
[Item(s) to be Amended] Claim
[Method of Amendment] Modification
[The contents of amendment]
[Claim(s)]
[Claim 1]
The input unit which inputs the judgment result of study extent to the candidate for study for study, the storage which stores the judgment result for [said] study, and said candidate for study -- each -- or by the screen or printing with a display or the output unit which carries out a voice output for every study group which classified the candidate for study for every study item the arithmetic unit which carries out inverse substitution of the lapsed days between study days and months to the days and months which carry out four operations and correspond according to study annual -- since -- the constituted study exchange equipment -- it is
A study day setting means to set a study day.
A study extent judging input means to input the study extent judging of the group for study of a more than for [which is learned on said study day] 1 study for every candidate for study,
It is a study scheduled day setting means the next time which sets up the period by the study scheduled day the next time reviewed according to the level of said study extent.
An output means to output to the subsequent study scheduled day in order to tell the group for study of the study day.
Study exchange equipment characterized by providing.
[Claim 2]
A study scheduled day setting means is study exchange equipment according to claim 1 characterized by choosing the next study scheduled day setting multiplier of the arbitration set up according to the level of study extent, multiplying lapsed days by this from the last study day, and carrying out operation calculation of the study scheduled day next time said next time.
[Claim 3]
k-th study scheduled day train R [k] which is said study group x It is the study exchange approach based on x,
next study scheduled day successive installation of the arbitration set up according to the level of study extent -- a law -- the study scheduled day train decision step which chooses a multiplier, multiplies lapsed days by this from the last study day, and carries out operation calculation of the study scheduled day train next time,
Said R [k] Step which generates new group number x**alpha and new study scheduled day train R [k**beta] x**alpha for [which the level difference concerned produced] study when a level difference arises in study extent for [of x / each] study.
since -- the study exchange approach characterized by being constituted.
[Procedure amendment 2]
[Document to be Amended] Specification
[Item(s) to be Amended] 0007
[Method of Amendment] Modification
[The contents of amendment]
[0007]
[Example]
They are two or more candidates for storage Group number 1-2-3 ... It classifies into the group of n and a study day is assigned by the n-th time from the 1st time, in the form of X+ and X-, and X±, i.e., a table, a flash aide, and voice, the contents for storage

are driven in and each of the candidate for storage is contained. In defining the schedule from study initiation, the schedule spacing P is decided first. That is, if it is P= 1 and is P= 7 every day, it will learn every 7th day. the schedule of now P=1 ··· a group number — assigning — day by day [study] — a sequential display — or — although it is attached to carrying out a voice output and learning and review of the 1st day will usually be carried out at the 2nd day supposing it carries out by the geometrical series of common-ratio =2 after that — drawing 1 — like -- becoming — this — arranging ··· the drawing 2, then 1st train R [0] — the 2nd train R for [new] storage [1] ··· the 3rd train R of the candidate for the 1st review [2] ··· the 2nd candidate for review — sequential order is carried out with ..., each group can be reviewed by the frequency same to the group number n, and it is very rational. However, it is while a card classification and its arrangement box proper for performing this, and the equipment which can carry out [short story ****]-izing are indispensable and considerable derangement follows on those handling, if a voice output is also performed temporarily. It is [3rd train / R] about the low thing B which the need for recombination will arise if study extent is judged, for example, is study extent in for [in the group of the group number 1] storage or the thing C which is not memorized, V-B, or C [3].
When are discovered, and included in the group of the group number 5, it will be reviewed again on April 12 after the same frequency, i.e., four days. moreover, disp [there is also a day of trouble, and it cannot perform in many cases, and / various elements such as effect of the difficulty for storage, and a storage superposition situation, / uniformity] slag and further often if it will carry out on the same spacing schedule also with a study plan day, although it will become simpler, even if it is based on study in that case every day . Therefore, as what has free nature with processing of an above-mentioned statement of principles, this invention needs to consider an art. Although the meaning of a computer activity is here, supposing the candidate for storage of the group of 12345 is learned now weekly, it will become like drawing 3. That is, although arranged [eye / 1st ****** 2 train] with review of the 1st initial storage, and the 2nd review one by one like the above, a review period in the meantime is the terms and conditions for storage. There is also often the need that may choose study frequency freely and moreover the part in the group dissociates by V judging. That is, although selection of the review scheduled day multiplier for deducing a study schedule to the storage maintenance days from last time next time must be first defined in setting up each train as an element, in short, it serves as a days setup of ****** of each train from the front row, and serves as selection of the multiplier for it. That is, in the case of this example, the student made the regular-intervals schedule unit P seven days, initial storage to the 2nd review train chose the same study schedule multiplier K (a= 1), and the 3rd review R [3] has adopted K (b= 2) for it. That from which it separates from a group in the meantime is a thing of the multiplier of what time throat each time. Although it is **** which the storage maintenance days H are anew multiplied by the review schedule multiplier K from second from last time since it is V-A till last time, and is changed to the group number for storage of the applicable day although in other words it is important whether it includes or into which group of ****** it puts, the procedure is simplified and it is sufficient to be included in the neighboring group number of the day of the existing train, i.e., the train of an one-step high order, etc. In the case of the phenomenon in R [1], this can take a measure by modification of x+1 temporarily now, but if it changes to the group number of the day of train [of the high order] R [r-1] in or subsequent ones R[2] R [r], it can review again by the same frequency. That is, in a setup of R, it is about drawing 1.
At R [0], it is P= 1 and H= 0.
At R [1], it is reliance about the next study day.
At R [2], it is P= 1 and H=1xK(b= 2) =2.
At R [3], it is P= 1 and H=2xK(b= 2) =4.
-
-
-
while forming the train to R [n], the group number which belongs to each train is included in each schedule, and make it a child with a personal computer, or make it input manually or make it any — it is convenient when replacing a group number manually. if R [r] is displayed on each candidate for storage as a jersey number of the affiliation group number x. Furthermore, each for storage carries out sequential receipt as X+ and X-, and Xs, and it enables it to call it from any sequence. That is, after [A] calling and learning the candidate for study of the day under the date and carrying out self-valuation of judgment V-ABC of the storage extent. BC is made to give the opportunity of review again by the group number x of the day of row number R[r-1] R[r-n] of each high order, or choosing x**alpha further and carrying out an admission substitute with automatic or hand control at it In general as it is, If drawing 3 shows a procedure again
(1) OPEN : study preparation
1) Input the candidate for storage by which the group division classification was carried out beforehand on the first day in order of X+ and X-, and Xs.
2) Define a study initiation schedule and distribute to a schedule the group number which defined and carried out the group division of the study schedule spacing unit P about R [0]. It becomes the week schedule reason P= 7.
3) although the study scheduled day is made into a study day one week after, i.e., immediately after, about R [1], if only review is registered on the 3rd day of the way and it will simplify integrally, in order to make a study day and a review day in agreement, although it can also register as 3/7=0.43=b — b=2c=3 ··· what is necessary is just to make it ... anyway — from the maintenance days H — calculating — review scheduled day setting multiplier a-b _ is chosen and a review train is prepared in the next step. In this train, the same is said of eye the 3rd train as a review schedule multiplier K (a= 1), and it is 4th train referred to [R] as b= 2 [3]. That is, if x(affiliation group number) P(study schedule spacing) X+, -Xs(table for storage, flesh-side, and voice) R (affiliation train) V-ABC(study extent judging) H (maintenance days), etc. are defined, the thing which is the need will make this at a display the jersey number for [each] storage by x and R as a result.
(2) STUDY : study
b) From the date of the day, call R [0] in order of the arbitration of X+ and X-, and Xs, and it carries out memory learning.
b) In A judging, it remains as it is in general in calling, reviewing and carrying out a V-ABC judging in the sequence as which X+ and X-, and Xs determined the candidate for review of the day one by one, and rearranging a group number by x**alpha, respectively. Although it can review by the repeat from the maintenance days before that further in the same frequency again If it is alike, it carries out and it makes to carry out an admission substitute into a criterion from each jersey number at the group number x of the day of R [r-1] in B judging, and case [of C judging] R [r-2] is the same and it rearranges for the group number of the day. in addition, free nature is given to the x, and it is good also as **alpha.
(3)END
[Procedure amendment 3]

[Document to be Amended] Specification
[Item(s) to be Amended] 0009
[Method of Amendment] Modification
[The contents of amendment]
[0009]
[Brief Description of the Drawings]
[Drawing 1] The initial order table showing a principle
[Drawing 2] The conversion table for carrying out order activation
[Drawing 3] The order table of the example at the time of learning by 1 time of frequency for a week
[Procedure amendment 4]
[Document to be Amended] Specification
[Item(s) to be Amended] 0010
[Method of Amendment] Modification
[The contents of amendment]
[0010]
[Description of Notations]
x Group number
P Study schedule spacing
X+ and - Table flesh side for storage
Xs Voice output
R [0] Initial study train
R [r..n] From the r-th time to the n-th review train
V-ABC Study extent judging
H Storage maintenance days
K (abc..k) Review scheduled day setting multiplier
[Procedure amendment 5]
[Document to be Amended] DRAWINGS
[Item(s) to be Amended] drawing 4
[Method of Amendment] Deletion
[The contents of amendment]

[Translation done.]

Prior Art

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審査請求　未請求　請求項の数３　書面　（全６頁）

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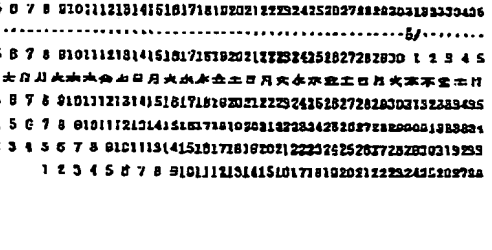
(54)【発明の名称】　学習支援装置および学習支援方法

(57)【要約】
【目的】　記憶対象を学習するについて、従来の無作為な繰り返し学習方法に代えるに、記憶学習程度の高いものに付いては学習期間を長くし、低いものについては短くする事による学習方法の合理的改善を目的としたソフトの開発である。
【構成】　学習対象群ｘ（１）よりｘ（ｎ）を学習日程に振り分けて、そのそれぞれを学習して記憶する場合、その分類群番号と学習実行日および次回復習学習日を設けてその学習程度をＡＢＣ分類してそれに応じて学習期間を設定し、合理的な日程計画をたてて永久記憶まで学習出来るようにした学習支援装置および学習支援方法。



【特許請求の範囲】

【請求項１】 学習対象並びに学習対象に対する学習程度の判定結果を入力するための入力装置、学習対象と学習結果を格納する記憶装置、学習対象を個々にあるいは学習群ごとに画面または印刷により表示、または音声出力する装置および学習年次に合わせて学習月日間の経過日数を加減乗除し該当する月日に逆変換する機能を、併せ持つ装置を備えた、学習、復習の支援装置において、学習日を定めて、その学習日に学習する１学習対象以上の学習対象群の学習程度判定を、学習対象ごとに入力し、学習程度の高いものの復習までの期間を長く設定し、学習程度の低いものの復習までの期間を短く設定し、以降の予定学習日に、その学習日の学習対象群を画面表示及び印刷または音声出力するように出来る装置を備えることを特徴とする学習支援装置。

【請求項２】 請求項１に記載の学習日を設定し、その復習日を定めるにあたっては、予め２種以上に分類して設けた復習予定日設定係数を学習程度判定にによって適正選択し、同一記憶対象の前回の学習日もしくは復習日からの経過日数に基づいて次回学習予定日を演算算定するようにした学習支援方法。

【請求項３】 記憶装置に記憶させた記憶対象を、初回学習日列Ｒ［０］の記憶対象群に日程毎に群番号１、２・・ｘ・・を与え、順次Ｒ［０］１、Ｒ［０］２・・・Ｒ［０］ｘ・・・として等間隔日程で学習して収納し、そのそれぞれの次回復習日列をＲ［１］第２回復習日列をＲ［２］・・第ｋ回復習日列をＲ［ｋ］としてＲ［ｋ］ｘの日程を定めるについて、前回学習日列よりの記憶保存の日数に復習予定日設定係数を乗じて演算して次列の日程を請求項２に基づいて確定し、Ｒ［ｋ］ｘ群の内部の個々の記憶対象を、学習程度の上下によって復習頻度変更の要ある時は、個別に番号付けを行わずｘ±αの群番号を与えてその該当群番号所属列Ｒ［ｋ±β］に自動編入するようにして、簡素化した群管理による学習支援方法。

【発明の詳細な説明】

【０００１】

【産業上の利用分野】本発明は群番号を与えた記憶対象を復習するについて、例えば日程を等比級数の公比ｒの級数ｒ＝２の配列とすると、記憶当日、翌日、翌翌日・・・即ち２日、４日、８日・・と復習頻度を遠ざけてやがて永久記憶までの日程で計画的に行うことが出来れば格段に合理化できるが、これを大量に混乱なく実施できるように試みたもので、教育分野の改良としてばかりでなく強制記憶ともいうべき宣伝活動及びその他会社経営の管理活動等活用範囲は広い。

【０００２】

【従来の技術】記憶活用分野において従来記憶方法が無作為で、単に繰り返す事が必要であることが認識されているのみで、その根拠となるものはエビングハウス記憶曲線によって記憶の喪失状況の分析曲線程度に終わっている。実行する過程で最も陥り易い欠点は、当然のことながら、学習程度による記憶対象の組替えが頻繁に必要となり、あるいは日程通りの実行が諸環境に災いされて出来なかった場合の組替え等、手書き方法では記憶対象を単体化するカード作製作業及び学習中のカード整理作業等、本来の記憶学習以外の準備作業のため頗る煩雑化する。そして結果的に挫折する原因となっている。

【０００４】

【発明が解決しようとする課題】本発明はこの欠点を補って常に記憶状態を把握しながら学習出来るソフトを作ることによって、記憶目的を完遂するよう組み上げたもので、且つ語学学習等の場合の音声出力も含めると従来の手書き方法では不可能に近い。記憶状態に応じて学習対象を整理し、学習及び復習が出来ること、また計画の変更が随時簡易に行い得ることでないと混乱をしばしば引き起こすことになるが、本発明はこの変更に自由性をもたせたものである。例えば前回の学習日から今回復習までの経過日数から見て、記憶が頭脳に保持されているものに付いては、次回の学習はその１以上の倍数の経過日程を選択すること、即ち初回からだけでなくその都度の前回からの日数をも基準として設定することがより合理的であるとした。また他方記憶不十分の時は次回までの日数を同一日数か、または縮めるための１または１未満の数字を乗じて修正出来るようにし、この予め定められた復習日設定係数を含めた算定方法で、学習日毎にそれぞれの学習項目の復習日を定め、これをソフト化したもので、パソコンに導入して学習は文字表現だけでなく、音声出力も同時可能にしたもので、従来その試みは皆無である。記憶対象の復習日を算定するに付いては記憶対象内容表・裏（Ｘ＋および－）記憶対象の番号（ｘ）前回学習実行日（Ｚ）学習，該当日（Ｓ'）学習実行日（Ｓ）記憶保持日数（Ｈ）学習程度判定（Ｖ－ＡＢＣ・・）　復習日設定係数（Ｋ－ａｂｃ・・・ｋ－ａｎｄ　Ｋ）　を必要としその表示により学習後次回復習予定日が自動的に計算され（Ｈ×Ｋ）該当月日に換算したうえ次回復習該当日（Ｙ）として収納する。次に記憶対象が複数の場合で学習を連続する場合、初期記憶を等間隔日程（Ｐ）で行い、同時に復習も同一日に配列するようにすれば計画表の整頓が容易になる。この場合上記のＨはＰの整数倍とすると学習日が確定されて管理し易い。即ち個別背番号を群番号としてグループ管理するとともに，学習程度の低いものに付いては群から外して他の適正群に編入するようにすればより簡素化出来るはずである。またしばしば起こる混乱は予定された日程で学習できなかった場合である。仮に日程を過ぎた場合には、それまでの復習予定日のものを出力して学習し、新日程に組替えを行えるようにするとともにそれまでに計画した初期記憶のものについても変更を容易に出来るようにしなければならない。いずれにしろ先ず対象をグル

ープ化して一括群番号をつけ、次いで学習日に初期学習・復習学習をそれぞれ第０列、第１列、第２列・・・として配列整頓し、その各列設定時に復習予定日設定の係数としてあらかじめ固定化した復習日設定係数を含んだ算定式を用い、群内の個別の記憶対象の編入組替えも容易にしている。その算定式の復習日設定係数を１以上１未満の自由値でもよいが、初期学習と復習日がマチマチにならないよう、山来れば整数日程で処理するものとすればより簡易化する。

【０００５】

【課題を解決するための手段】記憶対象を初めに画面に表示し、これを分類して日程に割当てて収納番地をあたえるが、その際識別は個々に背番号を与えず群番号を与え簡易化する。その日の対象を記憶学習すると同時に実行月日を表示し次回の復習日を定めると自然復習列を与えることになる。記憶学習実行日には、まず復習対象から開始し、記憶の程度に応じて次回復習予定日を決定する。それには記憶程度をＡＢＣ分類し、相応の選択子として設定した復習日設定係数ａｂｃ・・ｋにより算定した予定復習日を記憶対象規定位置に上書きして保存する。その予定復習日列は前回の記憶学習日から当日の復習学習日までの日数から記憶保持可能の日数を想定することになるが、ａｂｃ・・ｋはその復習予定日算定のための係数として予め定めておけば便利である。従って初期においては学習間隔が基本となる。週間日程なら１週間に基本数字１を与える。当人の記憶能力と対象の難易度その他重畳記憶の影響等複雑な要素もあるが、通常初期は記憶程度Ａでａ＝１として復習日即ち第２列同は次の初期記憶対象学習日にマッチさせる。対象群は１括して群番号を与えた上番地に必要要素を与えて収納しておくのを原則とし、個々の場合の番地はそれ以降学習程度に応じて分岐することになるのが理想ではあるが、整理上群の何れかに編入する方が便利である。即ちａ＝１ｂ＝２あるいは学習間隔が偶数の場合は復習のみの日としてならｂ＝１．５でもよいが、何れにしろ係数は予め固定しておくものとする。その際Ｋとして都度学習者が設定する日由係数として残してもよい。当然その都度記憶対象の所属群組替えの必要はある筈だが、概ね学習程度がよければ元の組に所属し、その他は新しい組を作る代わりに以降のグループの番号に編入することで簡易化できる。即ち第１回目復習で記憶程度が悪い場合翌日の記憶対象に編入してもよいが、それ以降の任意の日程で生じた場合はその処置では以降初期と同じ頻度が繰り返されることになって不合理で、それ相応の係数を与える代わりにｘ＋α（または－α）等に編入する。何れにしろ各列は前回列の学習日よりの日数に予定日設定係数を乗じて、次回復習日を予定することになる。

【０００６】

【作用】即ち記憶対象の個々に表示例として背番号付記憶対象または所属群番号・次回学習予定日欄・今回記憶

または復習記憶の学習実行日欄をそれぞれ設けたうえ保存することによって何時の時点でも整理された対象を合理的に呼び出して、記憶実行することができ、覚えているはずが忘れており、忘れたはずが覚えているという繰り返しが自信をなくする原因となって学習を放棄する混乱を来している現状を可能の限り避け得たものである。

【０００７】

【実施例】複数の記憶対象の場合記憶装置に記憶させた学習対象を各学習項目よりなる群番号１－－ｎの群に分類し、学習日を第１回から第ｎ回までに割り当てて、学習日ごとに順次表示もしくは音声出力して学習していくについて、通常は第２日目に第１日目の復習をするが、その後は例えばｒ＝２の等比級数で行ったとすれば図１のようになり、これを整理して図２とすれば第１列Ｒ［０］は新しい記憶対象、第２列目　Ｒ［１］は１回目の復習対象第３列目Ｒ［２］は２回目の復習対象・・・と順次整頓されて群番号ｎ　まで同じ頻度で復習出来て頗る合理的である。ところがこれを実行するには適正なカード分類とその整理箱、仮に音声出力も行うとすれば、短縮化出来る装置がなければならないし、それらの取扱には相当な混乱が伴うと共に学習程度の判定を含めて組替えの必要が生じ、例えば群番号１のグループ内の記憶対象の内、学習程度の低いもの、即ち記憶されていないものを群番号２のグループに編入する必要性がしばしば有る。また学習計画日についても、同一間隔日程で行うことにすればより単純になるがその場合例えば毎日学習を基本としたとしても、日祭日もあり、その他の環境に支配されることもあって実行できないケースも多く、更に記憶対象の難易、記憶重畳本情の影響等さまざまの要素がからみ、１律に処理できない場合が多い。従って本発明は上述の基本方針の処理と共に自由性のあるものとして、処理方法を考えておく必要がある。いま仮に１２３４５のグループの記憶対象が１周間毎に学習されたとすると、図３のようになる。即ち上記と同様第１列同第２列目と順次初期記憶第１回目の復習、第２回目の復習と整理されることになるが、その間の復習周期は記憶対象の諸条件によって学習頻度を自由に選択する場合があってよい筈で、しかもそのグループ内の一部が分離する必要もしばしばある筈である。即ち要素としては各列を設定するについて、前回からの記憶保持日数に対して次回学習日程を割り出すための復習予定日係数の選択をまず定めなければならないが、それは要するに各列間の記憶対象の日数設定の係数となる。即ちこの例の場合学習者は、等間隔日程単位を７日とし初期記憶から第２回目復習列までは同一の学習予定係数１を選択しているが、第３回目復習Ｒ［３］は２を採用している。その間にグループから外れるものはその都度何回目のどの係数のものに編入するか、言い替えると第何列のどのグループに入れるかが大切であるが、単純化するため１だけ背番号を加算して次回のグループに編入する等で事足り

ている。従ってパソコンで自動選択させる手順を示すとＯＰＥＮ：初日に予め群分け分類された記憶対象を入力する。記憶学習する。これのグループとしての学習予定日間隔単位Ｐを定める。毎日ならＰを１とし、週間日程ならＰを７とする。前者なら取り合えず翌日を復習日後者なら１週間後で何れもａ＝１の係数を指定するが．後者で途上何曜日か例えば３日後に復習のみを行うとすれば３／７＝０．４３＝ｂとして登録して置く事もできる。何れにしても保持日数Ｈから算定するに付いての復習予定日設定係数ａ・ｂ・・を選んで次段に復習列を設けるがこの例では頻度係数ａ＝１として第３列目も同じで第４列目はｂ＝２としている。

（１）　学習初期手順

イ）学習準備　ＯＰＥＮ：

Ｐ：日程間隔

Ｘ＋：Ｘ－：記憶対象をグループ分けして、ｘの振り割りを１折行っておいてもよいしあるいは１－ｘ－ｎの都度記憶対象を入力（音声及び画面）する

Ｓ’：学習予定日　Ｓ：学習実行日日

Ｋ：復習日予定係数ａ＝　ｂ＝　ｃ＝　・・

この対象の場合の各列のＫの選択

ロ）学習手順

①　Ｙ０（新規学習サイン）：

②　Ｓ’：年月日入力　Ｘ＋：Ｘ－：記憶対象表裏入力

ｘ：グループ番号

③　学習後Ｖ：ＡＢＣ判定しそれぞれａｂｃ・・入力を省略　Ａ（覚えたの判定もとのｘに収納　その他はｘ＋１にいれかえ

Ｓ：　Ｒ０：自動入力

④　ＥＮＤ

（ＩＩ）　その後の復習手順（学習２日目以降手順）

イ）復習手順（第２回目以降）

①　Ｙ１（復習サイン）：

②　Ｘ＋：Ｘ－：　ｘのグループ番号とともにその日の復習予定日のｘの出力それぞれで学習程度ＡＢＣに応じてもＡｂ：もとのｘに収納

Ａａ：ｘ－１

Ｂａｂｃ・・ｋの選択で（ｘ＋ｏｒ－α）

（即ち予め定めたルール例えばＢａにおいてｘ＋１に収納）

Ｃ：ａｂｃ・・ｋ　その他　Ｋの選択

④ＥＮＤ　（該当箇所に自動収納）

ロ）計画学習日に学習出来なかった場合

①　Ｙ１（復習サイン）：

②　ｘ：計画されたその日までの復習グループ対象が表示される。

③　ＡＢＣ分類する

Ｂ：　Ｃ：（前と同じ）

④　Ｙ０：　前記と同じ

【０００８】

＊即ちｘ（所属群番号）Ｐ（学習日程間隔）Ｓ’（学習該当月日）Ｘ＋及び－（記憶対象表・裏）Ｚ（前回学習実行日）Ｓ（学習実行日）Ｒ（所属列）

ＶＡＢＣ（学習程度判定）Ｈ（保持日数）Ｋａｂｃ・・ｋ　ａｎｄ　Ｋ（復習予定日設定係数）Ｙ（復習設定該当日）　等を定めれば結果的に表示に必須なのはＸｘＳ’ＳＺＹ　Ｒ［］でこれをを表示する。各記憶対象のグループより外れた場合個々の背番号は例えば１－１とし、これを保存してもよいが、単純化するため通常Ｘをｘ＋１等他のグループに編入する。なおＹ０：は初期記憶のものの出力サイン、Ｙ１：は復習学習として収納サインとして例示すると

【発明の効果】すべての記憶対象を完全記憶するまでの配列を十分にできるようパソコンの保存能力と、保存日数計算能力とそれの月日への変換能力をフルに活かして、単記でのカード化の手数、保存手数、組替え手数を解消し、語学会話練習のように音声の伴うものについては従来の方法では不可能に近かった。個人の能力によってきた記憶対象によって適ざける頻度を都度替えることも常数化することも都度定めることも可能で、最終の永久記憶期日も随時変更可能である。従って教育界を主体としてあらゆる記憶必須業務、また強制記憶と言うべき不特定多数にたいする宣伝活動の計画化にも活用できる。

【０００９】

【図面の簡単な説明】

【図１】原理を示す初期登録表

【図２】整頓実行するための変換表

【図３】週間に１回の頻度で学習を行った場合の実施例の整頓表

【図４】表示画面を示す図

【００１０】

【符号の説明】

ｘ　グループ番号（背番号）Ｐ　学習日程間隔　Ｓ’学習該当月日

Ｘ＋および－　記憶対象表裏　ｘ　グループ番号　Ｚ前回学習実行日　Ｓ学習実行日　Ｒ　所属列　Ｖ－ＡＢＣ－　学習程度判定　Ｈ　保持日数　Ｋ（ＡＢＣ…ｋ）復習予定日設定　係数　Ｙ　復習設定該当日

ＹＯ：　新規学習出力サイン

Ｙ１：　復習出力サイン

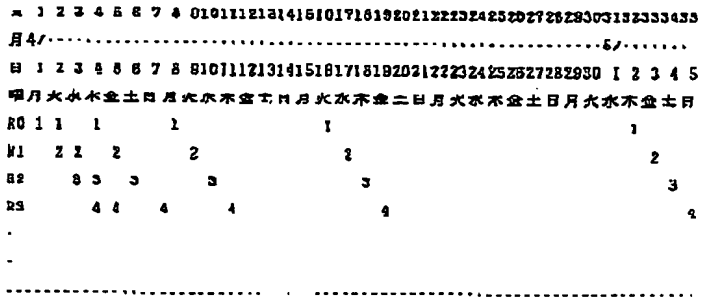
7

P： 日程間隔入力サイン
X： 記憶対象 x グループ番号
S： 群番号に初期学習該当日入力
Z： 学習実行年月日入力

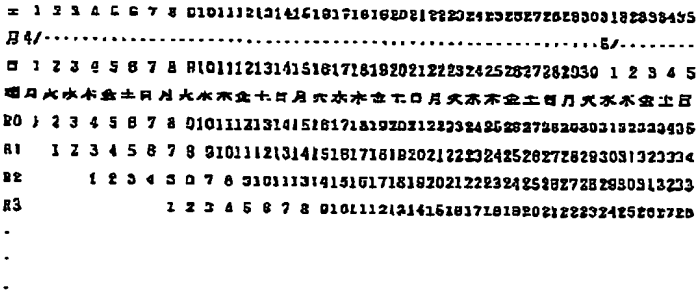
8

＊K： a＝ b＝ c＝ 入力
V： ＡＢＣ判定それぞれにａｂｃ・・ｋおよびＫ入力
＊ Y： 復習設定日自動入力とＲ「」入力

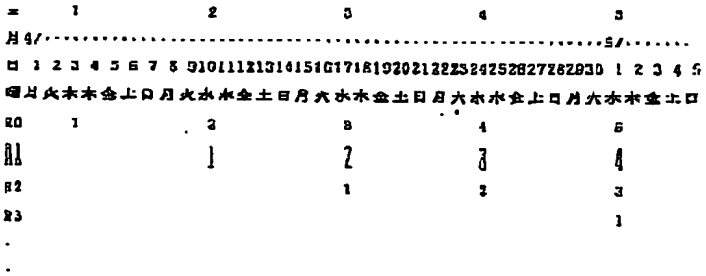
【図１】



【図２】



【図３】



【図4】

Y1:

=	R	Xt・ー	S'	S	Y	σ
[illegible]	所属列	Xト 記憶対象	学習予定日	学習実行日	[illegible]	[illegible]
2	1	BOOK	4/17	4/17	B	+1
		x— ぁ				

【公報種別】特許法第１７条の２の規定による補正の掲載
【部門区分】第６部門第２区分
【発行日】平成17年10月20日(2005.10.20)

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【国際特許分類第７版】
Ｇ０９Ｂ　5/06
【ＦＩ】
Ｇ０９Ｂ　5/06

【手続補正書】
【提出日】平成17年6月24日(2005.6.24)
【手続補正１】
【補正対象書類名】明細書
【補正対象項目名】特許請求の範囲
【補正方法】変更
【補正の内容】
【特許請求の範囲】
【請求項１】
学習対象及び学習対象に対する学習程度の判定結果を入力する入力装置と、前記学習対象及び判定結果を格納する記憶装置と、前記学習対象を個々に、或いは学習対象を学習項目毎に分類した学習群毎に画面又は印刷により表示又は音声出力する出力装置と、学習年次に合わせて学習月日間の経過日数を加減乗除して該当する月日に逆置換する演算装置と、から構成された学習支援装置であって、
学習日を定める学習日設定手段と、
前記学習日に学習する１学習対象以上の学習対象群の学習程度判定を学習対象毎に入力する学習程度判定入力手段と、
前記学習程度のレベルに合わせて復習する次回学習予定日までの期間を設定する次回学習予定日設定手段と、
以降の学習予定日に、その学習日の学習対象群を知らせるために出力する出力手段と、
を具備したことを特徴とする学習支援装置。
【請求項２】
前記次回学習予定日設定手段は、学習程度のレベルに合わせて設定された任意の次回学習予定日設定係数を選択し、これを前回の学習日からの経過日数に乗じて次回学習予定日を演算算定するようにしたものであることを特徴とする請求項１に記載の学習支援装置。
【請求項３】
前記学習群ｘの第ｋ回学習予定日列Ｒ［ｋ］ｘに基く学習支援方法であって、
学習程度のレベルに合わせて設定された任意の次回学習予定日列設定係数を選択し、これを前回の学習日からの経過日数に乗じて次回学習予定日列を演算算定する学習予定日列確定ステップと、
前記Ｒ［ｋ］ｘの個々の学習対象の学習程度にレベル差が生じた場合に、当該レベル差の生じた学習対象に新規群番号ｘ±α及び新規学習予定日列Ｒ［ｋ±β］ｘ±αを生成するステップと、
から構成されたことを特徴とする学習支援方法。
【手続補正２】
【補正対象書類名】明細書
【補正対象項目名】０００７
【補正方法】変更

【補正の内容】
【０００７】
【実施例】
複数の記憶対象を群番号１・２・３・・・ｎの群に分類し、学習日を第１回から第ｎ回までに割り当てて、そのそれぞれの記憶対象を、Ｘ＋・Ｘ－・Ｘｓ即ち表・裏・音声の形で記憶対象の内容を打ち込んで収納する。学習開始からの日程を定めるについてはまず日程間隔Ｐを決める。即ちＰ＝１なら毎日Ｐ＝７なら７日目毎に学習することになる。いまＰ＝１の日程で群番号を振り当て、学習日毎に順次表示若しくは音声出力して学習していくに付いて、通常は第２日目に第１日目の復習をするが、その後は例えば公比＝２の等比級数で行なったとすれば図１のようになり、これを整理して図２とすれば第１列Ｒ［０］は新しい記憶対象、第２列目Ｒ［１］は１回目の復習対象第３列目Ｒ［２］は２回目の復習対象・・・と順次繰順されて群番号ｎまで同じ頻度で各群を復習できて頗る合理的である。ところがこれを実行するには適正なカード分類とその整理箱、仮に音声出力も行なうとすれば、短縮録音化できる装置がなければならないし、それらの取扱には相当な混乱が伴うと共に学習程度の判定を行なうと組替えの必要が生じ、例えば群番号１のグループ内の記憶対象のうち、学習程度の低いものＢ、或いは記憶されていないものＣ、Ｖ－ＢまたはＣを第３列目Ｒ［３］で
発見された場合、群番号５のグループに編入すると同じ頻度即ち４日後の４月１２日に再度復習されることになる。また学習計画日についても、同一間隔日程で行なうことにすればより単純になるがその場合例えば毎日学習を基本にしたとしても、支障の日もあり、実行できないケースも多く、更に記憶対象の難易、記憶重畳事情の影響等様々の要素がからみ、一律に処理できない場合が多い。従って本発明は上述の基本方針の処理と共に自由性のあるものとして、処理方法を考えておく必要がある。ここにコンピュータ活用の意義があるが、今仮に１２３４５のグループの記憶対象が１週間毎に学習されたとすると、図３のようになる。即ち上記と同様第１列目第２列目と順次初期記憶第１回目の復習、第２回目の復習と整理されることになるが、その間の復習周期は記憶対象の諸条件によって学習頻度を自由に選択する場合があってよいはずであって、しかもそのグループ内の一部がＶ判定によって分離する必要もしばしばあり、即ち要素としては各列を設定するについて、前回からの記憶保持日数に対して次回学習日程を割り出すための復習予定日係数の選択をまず定めなければならないが、それは要するに前列からの各列のずらしの日数設定となり、そのための係数の選択となる。即ちこの例の場合学習者は、等間隔日程単位Ｐは７日とし初期記憶から第２回目復習列までは同一の学習予定係数Ｋ（ａ－１）を選択し第３回目復習Ｒ［３］はＫ（ｂ＝２）を採用している。その間にグループから外れるものはその都度何回目のどの係数のものに編入するか、言い換えると第何列のどのグループに入れるかが大切であるが、前々回から前回まではＶ－Ａなのだからその記憶保持日数Ｈに改めて復習予定係数Ｋを乗じてその該当日の記憶対象群番号に入れ替えるのが至当であるがその手順を単純化して既存の列即ち１段上位の列のその日の近辺の群番号に編入する等で事足りている。今このことは仮にＲ［１］においての現象の場合はｘ＋１の変更で処置できるが、Ｒ［２］以降Ｒ［ｒ］においてはその上位の列Ｒ［ｒ－１］のその日の群番号に切り替えれば同じ頻度で再度復習できることになる。即ちＲの設定には図１については
Ｒ［０］ではＰ＝１、Ｈ＝０
Ｒ［１］では直後の学習日を当て
Ｒ［２］ではＰ＝１、Ｈ＝１×Ｋ（ｂ－２）＝２
Ｒ［３］ではＰ＝１、Ｈ＝２×Ｋ（ｂ＝２）－４
・
・
・
Ｒ［ｎ］までの列を形成すると共に、各列に所属する群番号を各日程に組み入れておきパソコンで児童にするか手動で入力させるか、何れにしろ個々の記憶対象にその所属群番号ｘの背番号としてＲ［ｒ］を表示するようにすれば手動で群番号を入れ替える場合に便利

である。更に記憶対象の個々は、Ｘ＋・Ｘ－・Ｘｓとして順次収納し何れの順序からでも呼び出せるようにする。即ち日付でその日の学習対象を呼び出して学習し、その記憶程度の判定Ｖ－ＡＢＣを自己評価したＡは概ねそのままＢＣはそれぞれの上位の列番号Ｒ［ｒ－１］Ｒ［ｒ－ｎ］のその日の群番号ｘか更にｘ±αを選択して自動又は手動でそれに編入替えすることで再度復習の機会を与えることにする。再度図３で手順を示すと

（１）ＯＰＥＮ：学習準備

１）初日に予め群分け分類された記憶対象をＸ＋・Ｘ－・Ｘｓの順に入力する。

２）学習開始日程を定めＲ［０］について学習予定間隔単位Ｐを定め群分けした群番号を日程に振り分けする。週間日程故Ｐ－７となる。

３）学習予定日程Ｒ［１］について１週間後即ち直後の学習日とするが、途上３日目に復習のみ登録すれば、３／７＝０．４３＝ｂとして登録しておくこともできるが学習日と復習日とを一致させるために整数で簡素化するとｂ＝２ｃ＝３・・・にすればよい。何れにしても保持日数Ｈから算定し、復習予定日設定係数ａ・ｂ・・・を選んで次段に復習列を設ける。この列では復習予定係数Ｋ（ａ＝１）として第３列目でも同じで第４列目Ｒ［３］はｂ＝２としている。即ちｘ（所属群番号）Ｐ（学習日程間隔）Ｘ＋及びＸｓ（記憶対象表・裏及び音声）Ｒ（所属列）Ｖ－ＡＢＣ（学習程度判定）Ｈ（保持日数）等を定めれば結果的に表示に必要なのはｘ及びＲでこれを各記憶対象の背番号とする。

（２）ＳＴＵＤＹ：学習

イ）その日の年月日よりＲ［０］をＸ＋・Ｘ－・Ｘｓの任意の順序で呼び出して記憶学習する。

ロ）その日の復習対象を順次Ｘ＋・Ｘ－・Ｘｓの定めた順序で呼び出して復習しＶ－ＡＢＣ判定しそれぞれｘ±αで群番号を組み替えるについて、概ねＡ判定の場合はそのままにＬＢ判定の場合は個々の背番号よりＲ［ｒ－１］のその日の群番号ｘに編入替えするのを標準とし、Ｃ判定の場合Ｒ［ｒ－２］の同じくその日の群番号に組み替えれば、再度同一頻度か更にその前の保持日数からの繰り返しで復習できることになるが、なおそのｘに自由性を持たせてｘ±αとしてもよい。

（３）ＥＮＤ

【手続補正３】

【補正対象書類名】明細書

【補正対象項目名】０００９

【補正方法】変更

【補正の内容】

【０００９】

【図面の簡単な説明】

【図１】原理を示す初期整頓表

【図２】整頓実行するための変換表

【図３】週間に１回の頻度で学習を行なった場合の実施例の整頓表

【手続補正４】

【補正対象書類名】明細書

【補正対象項目名】００１０

【補正方法】変更

【補正の内容】

【００１０】

【符号の説明】

ｘ　グループ番号

Ｐ　学習日程間隔

Ｘ＋及び－　記憶対象表裏

Ｘｓ　音声出力

Ｒ［０］　初期学習列

Ｒ［ｒ・・ｎ］　第ｒ回から第ｎ回復習列

Ｖ－ＡＢＣ　学習程度判定
Ｈ　記憶保持日数
Ｋ（ａｂｃ・・ｋ）　復習予定日設定係数
【手続補正５】
【補正対象書類名】図面
【補正対象項目名】図４
【補正方法】削除
【補正の内容】

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